

Notice of Allowability

Application No.

10/802,647

Applicant(s)

NGUYEN, THOMAS D.

Examiner

Michael Kornakov

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/10/2004.
2. ☒ The allowed claim(s) is/are 1,3,5,6,8,9,11-21,23 and 25-33.
3. ☒ The drawings filed on 16 March 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 03/16/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Q. Hoellwarth, esq., on 11/10/2004.

The application has been amended as follows:

In the specification on page 1, replace the entire paragraph 0001 with the following ---The present application is a divisional application of co-pending U.S. Application No. 09/747,703, filed December 21, 2000, now U.S. Patent No. 6,733,595 which is incorporated by reference herein in its entirety.---

In the Abstract – please insert the new version of the Abstract, as provided on the separate paper (page 5 of this Office Action).

Response to amendment/Allowable Claims

2. Applicant's amendment dated 11/10/2004 is noticed. Claims 1, 3, 5, 6, 8, 9, 11-21, 23, 25-33 are allowable over the prior art of record.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance: the instant claims are related to the semiconductor wafer processing system, such as a multiple cluster tool, which includes the cleaning module, specifically adapted to perform cleaning operation on the back side of the wafer; the processing module with the chuck

for holding the back side of the wafer, and the transport module, specifically adapted to move the wafer between the cleaning and processing modules and place the wafer on the chuck without performing any other intervening manipulations. The closest prior art of record is U.S. 6,035,871 to Eui-Yeol. Eui-Yeol teaches the apparatus for producing semiconductor devices, which includes the wet cleaning and processing chambers and the robotic transfer tool for moving the semiconductor device between cleaning and processing chambers. The teaching of Eui-Yeol differs from the instant claims by not anticipating or suggesting fairly the apparatus, wherein the wet cleaning chamber includes a brush, specifically adapted for scrubbing the back side of the wafer or wherein the dry cleaning chamber with the gas system is utilized. The reference to Konishi et al (U.S.2001/0010103) teaches wet scrubbing apparatus, which is fully capable of cleaning only the back side of the wafer, however Konishi et al fail to anticipate or suggest fairly the cluster tool, which includes the wet cleaning chamber with the scrubber, the processing chamber with the chuck and transfer tool and wherein the transfer tool is adapted to move the wafer between the cleaning and processing chambers and place the wafer on the chuck without performing any other intervening manipulations. The reference to Okutani (U.S. 5,135,608) teaches a cluster tool, which includes wet cleaning chamber, dry processing chambers and carriage means. Okutani does not anticipate or suggest fairly the specificities of the wet cleaning chamber, as instantly claimed. No other prior art that anticipates or suggests fairly the apparatus with the combination of structural elements as instantly claimed has been located as of

the date of this office action. Therefore, claims 1, 3, 5, 6, 8, 9, 11-21, 23, 25-33 are allowed over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Kornakov

Michael Kornakov
Primary Examiner
Art Unit 1746

11/12/04

Abstract of the disclosure

A system for processing a wafer includes a cleaning module configured to only clean the back side of the wafer so as to remove unwanted particles therefrom before performing subsequent processing tasks on the process side of the wafer. The system also includes a processing module configured to perform processing tasks on the process side of the wafer. The processing module includes a chuck for supporting the wafer during the processing task. The system further includes a transport module configured to remove the cleaned wafer from the cleaning module, move it to the processing module and place it on the chuck of the processing module without performing any intervening manipulations during the movement.